

A CHRONOLOGY OF IMPORTANT DEVELOPMENTS IN THE HISTORY OF
TELECOMMUNICATIONS AT OHIO STATE UNIVERSITY

By

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The historical data contained in this document has been obtained from many sources. However, special acknowledgement for the early radio material should be given to the Master's thesis entitled, "History of WOSU Radio", prepared in 1968 by Rick Madden at the Ohio State University. Copies of this document are on file at the Ohio State University library, as well as the Telecommunications Center, and will serve as a more detailed supplement to the section on WOSU Radio history.

Also, in preparation during the centennial year is a master's thesis covering the years since the development of television and the Telecommunications Center.

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RADIO BROADCASTING

- 1910 - The first recorded instance of radio instruction at Ohio State University was in 1910 under Professor W. L. Upson of the Department of Electrical Engineering. That same year a radio station was begun simply as a receiving station, but before the end of the year it was both receiving and transmitting.
- 1913 - During the great flood of this year Columbus was isolated from the rest of Ohio and the only available means of communicating with many parts of the state was through the University's wireless. Unfortunate interruptions by amateur radio stations during this crisis prompted the OSU wireless operator to recommend rigid enforcement of the laws regulating amateur activities.
- 1913 - During World War I the United States Army School of Military Aeronautics formed a radio unit at Ohio State University under the supervision of the Department of Electrical Engineering.
- 1920 - The first license issued to the University was an experimental license dated March 23, 1920, for one year with the call letters 8XL and authorizing the use of 200 and 375 meters for the power of 1.8 kilowatts.
- 1922 - WEA0 began regular broadcasting on April 24. To mark the occasion President W. O. Thompson made the inaugural address in which he stated:
- "We are starting tonight the first of a series of programs of entertainment and instruction for the citizens of Central Ohio. These programs will be of the highest type, including music, science and other subjects of popular interest.
- Happily, Columbus' first radio program is being broadcasted from Ohio State University."
- 1922 - Power was increased to five hundred watts and the station was granted unlimited time for broadcasting. The station's programming was so popular that 50 newspapers and periodicals requested a schedule of programming for regular publication.
- 1922 - Problems of a technical nature, housing of studios, expansion of staff and programming marked this period. The station also enjoyed an increase in popularity.
- 1927 - Robert C. Higgy, who had received a degree in Communications Engineering and had been serving for a period of three years as radio engineer, took over direction of the station.

- 1926 - Publication of a WEAO program bulletin was inaugurated in November of this year. The following statement of purpose was issued:

"It is the purpose of the bulletin to list the complete programs for the month, to announce each new lecture series, to tell something about the course and lecture, and to give new items of interest about the station and its activities."

The station's programming was expanded to include a wide range of educational material, sports events and music. During this same year the station received an honor by being named a constant frequency station by the United States Bureau of Standards and was the only Ohio station to receive this honor.

- 1927 - An increase in power to 1,000 watts was requested of the Federal Radio Commission in April of this year. The station also requested a different time schedule and a longer wave length.

- 1927 - The first classroom broadcast of an entire course was announced with the following statement:

"This service constitutes the nearest approach to the ideal of educational broadcasting and makes Ohio State's radio university a reality."

- 1928 - A change in the wave length from 1,060 to 550 kilocycles was ordered by the Federal Radio Commission.

- 1927 - One of the first formal studies of the need for and desire of educational radio grew out of the Payne Student and Experiment Fund of New York conducted by D. H. Darrow. The study resulted in evidence of a very live interest in the possibilities of broadcasting for schools. Out of the study grew a proposal for a radio series entitled "Ohio School of the Air."

- 1929 - The Ohio School of the Air series, after months of trial and error, was finally sent via telephone from the WEAO studios to Cincinnati and transmitted over WLW. The series became very popular and D. H. Darrow was able to secure \$40,000 from the Ohio Legislature to support the program for a two year period.

- 1933 - An increase in power from 750 to 1,000 watts was granted by the Federal Radio Commission on March 24. This increase was granted for daytime use only. After sundown WEAO could only operate at 750 watts. During the period between 1929 and 1933 the university station experienced a number of interference difficulties, particularly with WKBM in Youngstown and was required to operate under a sharing of time arrangement for a considerable period. Another difficulty developed with a Syracuse, New York station. This problem was resolved in favor of WEAO.

1934 - A study was completed by the station in August of this year with respect to audience interests. The study revealed keen interest in the radio plays presented by the newly formed radio group and that they were second only to interest in the football broadcasts.

1934 - The Ohio Emergency Radio Junior College was developed primarily as a result of some needs and problems growing out of the depression of that period. Radio courses had been offered before but during this period the university, in cooperation with the Ohio Emergency School Administration, decided to offer more courses. While a student could not receive university credit upon successfully completing work, he was given the opportunity upon formally entering the university to take proficiency examinations, and could in this way obtain university credit for the courses. A maximum of 30 credit hours toward the degree was allowed. To help teach the course and to help employ the unemployed teachers were provided in many Ohio counties. Students and county teachers were encouraged to form local discussion groups.

1937 - Seven important areas of the station's development were reported in a book titled Education's Own Stations, by S.E. Frost published in this year. The seven important service areas of WOSU radio were listed as follows:

- The Radio Junior College
- Agricultural Programming
- Drama and Music Presentations
- School of the Air Broadcasts
- Athletic Broadcasts
- WOSU's Willingness to Experiment
- The Development of a Radio Workshop

One interesting item from this report was the fact that WOSU had the only Works Progress Administration (WPA) orchestra in the United States employing 20 unemployed musicians.

1937 - Technical improvements were approved by the Board of Trustees in September and included a new transmitter and tower and a move to a more favorable location, the university golf course.

1938 - Transfer of responsibility for the station from the College of Engineering to the President's Division was recommended and approved effective July 1 of this year. It was also during this period that the station's staff was reorganized and new advisory committees formed.

1939 - A new studio and control room were completed in the Communications Laboratory and a small addition to the structure also provided more office space. Power was increased to 5,000 watts.

1939 - An increase in power from 750 to 1,000 watts for its nighttime operation was granted in May. Acting university president William McPherson had estimated at this time that WOSU's potential listening audience was increased by 132,000 in primary coverage and by 654,000 in secondary coverage. In terms of miles the station's radius was extended to 68 miles. The Ohio School of the Air was now under the auspices of the university and it was determined that more than 250,000 pupils followed these programs on a regular basis.

1941 - The problem of sharing time with the Youngstown station was resolved by agreement and action of the Board of Trustees in which WOSU changed its frequency from 570 to 820 kilocycles, and increased its power to 5,000 watts for a full daytime operation but with sign off at sunset.

Ohio State University's new president, Howard L. Bevis, requested a statement of operating policies of the radio station from R. C. Higgy, Director. In response to this request Mr. Higgy outlined the policies, organization and operation of WOSU. In this report Mr. Higgy stated that the overall objective of the station was to "extend the university resources of personnel, laboratory and plant to the public of Ohio through radio." He also explained that the programming policies were determined by the radio education committee which also decided the type and nature of programs broadcasted. As for organization, Higgy explained that the station was divided into administrative, program planning, production and engineering divisions. The administrative area contained the station director, chief operator and program supervisor. There were three full time employees and one half-time employee on the production staff, while in engineering there were three full time and two half-time employees.

1941 - During the war period WOSU cooperated fully with all government agencies with respect to the war effort. This included regulations concerning weather forecasts, announcement of casualty lists, news broadcasts, etc. Much time was devoted to special announcements and programs providing information and help in promotion of the war effort. One series entitled, "Ohio at War" was a 15-minute weekday program which included consumer information, market analysis, background information of the peoples and nations involved in the conflict, and pertinent matters.

1944 - Allocation of FM channels for education was now being strongly urged by many institutions and Ohio State University president, Howard L. Bevis, representing the Radio Broadcasting Committee of the National Association of State Universities and Land Grant Colleges, appeared before the Federal Communications Commission outlining the interests and needs of the institutions which he represented. These hearings resulted in the later apportionment of a part of the FM band for non-commercial interests.

- 1946 - Mr. Higgy filed a report with President Bevis outlining the preliminary engineering data needed for an FM proposal, which included an Ohio Educational FM network.

Later, Higgy recommended to the Board of Trustees that an application be made to the Federal Communications Commission for a license to operate the FM station and that a sum of \$42,000 be appropriated for this purpose.

- 1948 - The FCC approved the university's application for an FM station on December 8 and granted a construction permit.
- 1945 - Non-sponsored educational programs of the major networks were made available to the university radio station through special arrangements and telephone lines to the local Columbus affiliates.
- 1950
- 1949 - A brief statement of station policy printed in the September, 1949 program bulletin was as follows:

"The Ohio State University operates WOSU primarily as an extension of University facilities to the people of Ohio. The great resources of the University on the campus are extended into your homes through WOSU.

It is our policy to present education and information as well as the other usual broadcast services in as attractive a manner as possible. Discussions of public questions in an unbiased, complete manner are regularly scheduled, as well as news and events of importance occurring at the University. We feel that it is the duty of WOSU to bring to the listening public as much of the campus and University activities as it is possible to do by radio. We use many programs of good music to surround the educational activity in an attractive manner.

The use of WOSU for local student instructional purposes is limited because the station is not intended, in any way, as a student laboratory. Students appear on WOSU programs only when they are competent and have a contribution to make to WOSU programs."

- 1950 - WOSU-FM began broadcasting in the evening hours for the first time, as well as duplicating the day time schedule. Programs were duplicated on both AM and FM until the required sign-off time for AM, and then were continued on FM during the evening hours.

- 1952 - Programming resources of the station had by this time increased to include over six hours of programs weekly from the NAEB tape network, the British Broadcasting Corporation, the Canadian Broadcasting Corporation, Cooper Union, Twentieth Century Fund, Foxwell Institute, Rocky Mountain Radio Council, and others.
- 1953 - Although the station had participated to some extent in the Ohio State Fair for many years, an extensive program was arranged for the Sesquicentennial Fair in 1953. Music Hall was the main originating point for the station and a special control booth was erected. Broadcasts also originated from other locations.

- 1954 - WOSU-FM broadcasting day was extended to 10:00 p.m. to provide more time for music and faculty programming.

WOSU received a grant-in-aid of \$3,200 from the NAEB and the Ford Foundations Fund for Adult Education. The grant was used in the production of a series of 13 half-hour documentaries entitled, "Our Unfinished Business," dealing with a variety of social problems. The series was accepted by the NAEB network.

- 1955 - January marked the fifth year of FM broadcasting over WOSU-FM at 89.7 mc. It was estimated that there were 933 hours of programming available to listeners on WOSU-FM during 1954.
- 1956 - The April, 1956 WOSU program bulletin was expanded to include program schedules for AM, FM and for WOSU-TV which had recently started operations.
- 1957 - WOSU-AM and FM originated the first live "stereophonic" music program in this area. The enthusiastic response of listeners prompted WOSU to prepare a new series for 1957-1958. This new 13-week series began on December 1, 1957, Sunday at 4:30 p.m. over WOSU-AM and FM as stereophonic broadcasts.
- 1962 - Bruno Walter was known to have been reluctant to record the Ninth Symphony of his good friend, Gustav Mahler. However, he did record this magnum opus before his death in 1962. WOSU Radio presented the rehearsal session and the complete recording of Mahler's Ninth with the Columbus Symphony under the direction of Bruno Walter on September 27.

In October of this year, the College of Medicine, in cooperation with WOSU-FM, initiated a special service for the medical profession in the state, consisting of a two-way audio network and the distribution of transparencies to be shown while listening to the FM radio presentations by the medical staff. Extension of coverage was provided through the cooperation of WHIO-FM in Dayton and in later years through other radio stations in the state.

- 1964 - Dr. William B. Steis was appointed General Manager of WOSU Radio, AM and FM.

1968 - Starting June 3 and continuing through the summer months, WOSU-FM remained on the air for two hours longer until 12:30 a.m. on weekdays in order to air a new network series called "Night Call," a one-hour production in cooperation with the National Council of Churches. Built on an "open mike" format generally dealing with urban crises in our nation, it featured call-in questions from listeners around the country.

On October 1, WOSU and WOSU-FM became separate stations offering different programs most of the broadcast day. WOSU-FM devoted most of its programming to music while WOSU-AM expanded its schedule of informational and educational programs.

After approximately one year spent in planning and construction, the FM automation system was placed in service in October. The system is housed in four racks containing five reel tape playback units, one cartridge tape playback unit, and sequencing and display units. An adjunct to the automatic switching system is the AM-FM logger, an ultra-slow speed, two channel tape recorder that records the day's events on one tape. Photo module switching is employed in all audio circuits in order to minimize switching transients, and solid state sequencing for more reliable switching. Ten sources are selected in the system by means of dialed rotary switches with digit indicators. Twenty-five sequential events can be programmed before repetition. A display panel indicated sequence position, on-the-air source, and next programmed source.

1969 - Vice President Agnew's June Commencement Address was aired over WOSU-AM and FM live from OSU Stadium. The station also cooperated fully with independent stations and networks in originating radio broadcast for this important event.

WOSU-TV AND THE TELECOMMUNICATIONS CENTER

1955 - The structure at 2470 North Star Road was a compromise design built to house both studio and transmission facilities--the original plan calling for television studios on main campus. The building had one 30' x 45' studio and a second studio "area" which proved too small to use. Also included were small areas designated for administration, graphics, photography, scene construction, film projection and kine-scope recording. (In 1962 a 2500 square foot addition for storage, offices, video tape recording and graphics was approved. Previous requests had been turned down by the State Controlling Board on the basis that WOSU-TV's primary function was "to project film.")

1956 - Regular programming service was initiated on February 20 with twenty hours of programming each week. WOSU-TV was the 19th educational television station on the air in the United States. The initial telecast on February 20 was an informal dedication featuring Vice President Frederic W. Heimberger and the University Symphonic Choir.

The layout of the studios and installation of equipment was supervised by R. C. Higgy, then Director of radio and television and later Associate Director for Engineering.

In July of this year the University's Board of Trustees appointed Richard B. Hull as Director of Radio and Television Broadcasting. William Ewing was named Associate Director. Mr. Hull was given the responsibility for developing and coordinating all aspects of electronic communication on and off campus, including closed circuit television as well as radio and television broadcasting.

During its first full year of operation, the station program schedule was expanded from 20 to 32 hours per week and included a number of live programs along with the program service of the National Educational Television and Radio Center.

1957 - During the winter and spring quarters the radio and television broadcast unit sponsored several seminar demonstrations of closed circuit television, involving a wide variety of departments and including reports of those installations already in operation in the departments of welding engineering, physiology and ophthalmology.

The unit also served as host to Ohio educational broadcasters in two meetings looking forward to the formation of a state-wide Ohio Council on Educational Television.

A five day seminar on "Research in Educational Broadcasting," sponsored by the National Association of Educational Broadcasters and the Ohio State University's Committee on Research and Communications, was held the week of 12-9-57. Dr. I. Keith Tyler was seminar director and Richard B. Hull, conference leader.

1958 - The acquisition of portable TV equipment made it possible for the first time to show the Ohio State - Michigan basketball game from St. John's Arena on February 15. Other sports remotes made possible by this equipment during this period included track and swimming meets, the Ohio High School Relays, and other basketball games.

On April 14, two on-the-spot broadcasts were televised by WOSU-TV. Also on April 14 the University's Swan Club presented a swimming exhibition from the men's natatorium. On April 22, "Camera on Health" originated from the emergency room of the University Hospital.

Production Consultant, Jack McGiffert of CBS-TV conducted a seminar on lighting for three days in April, and two lighting experts, Imero Florentino of ABC-TV and Bob Davis of NBC-TV conducted a three-day workshop for the technical staff in May.

During the spring quarter of 1958 Professor Leslie Miller taught the first Ohio State University telecourse, mathematics 400, a remedial course. Broadcast on open circuit, the course was viewed by approximately 200 students.

WOSU AM-FM-TV experimented with a three-channel stereophonic broadcast of the musical group, the Ohio State University Coeds, under the direction of John Muschick of the School of Music. Many favorable phone calls were received.

Some 400 students from eight high schools in Columbus completed the driver's education telecourse, WOSU-TV's first television course offered to high school students.

In 1958 the University accepted a gift from the Lake Shore System of a bus for housing its remote control units. Acquisition of the 25-passenger, commercial type bus enabled WOSU-TV to handle more on-the-spot telecasts than was previously feasible. The interior of the bus was designed and outfitted as a remote control unit by members of the WOSU-TV technical staff.

On November 1, 1958, the TV technical staff originated a closed circuit telecast of the OSU - Northwestern game in Evanston, which was seen by some 3,650 viewers in St. John Arena.

1958 - The following is an excerpt from a report by Director Richard B. Hull to President Fawcett, covering Telecommunications Center developments during the five year period 1958-1963:

"The five year record of development in telecommunications at OSU is one of continued expansion in instructional, research and service activities. While the history of OSU in educational broadcasting is a long and distinguished one, two new concepts have emerged during this period: (1) the use of television and

related media as integral parts of the instructional process rather than permissive or enrichment devices, and (2) the grouping of all media into a single University facility, a step made possible by the establishment of the Telecommunications Center."

"Student telecourse enrollments increased from 574 in 1957-1958 to 134,070 in 1961-1962 and subject matter areas from two to twenty-five course offerings. In that initial year, two telecourses were broadcast over the WOSU-TV's open-air channel while video recording facilities were limited to one kinescope machine."

"At the end of the five-year period a nine-channel campus-wide closed circuit television system had been installed, a self-contained CCTV system linked to the campus grid was in operation, and plans for a similar installation in the College of Medicine and the Personnel Research Board were underway. Three video tape recorders were in operation for fifteen hours per day, and Dentistry, which initially had produced only occasional programs, was complaining because it could not have instantaneous access to the tape machines. An office storage addition was made to the WOSU-TV building and new experimental studios (converted almost immediately to instructional television studios because of enrollment demands) were fitted out in Derby Hall."

"During 1961-1962 nearly 16,000 OSU students enrolled in ten different courses offered by five departments received instruction by television either from Channel 34 or by CCTV, including students in the branch centers at Marion and Newark. Zoology students in all the branch centers received TV instruction via kinescope film recordings of the lessons offered on the main campus."

"The radio branch of the Center, working with the College of Medicine, developed a 12-hospital network for postgraduate education and anticipates another complex of 12 hospitals participating by next fall. WOSU-FM broadcasts lectures to these locations and questions are relayed back to the studio by telephone circuits. In order to better meet these demands, the Center has opened the Office of Radio and Television Instruction in Derby Hall with a four-member staff to advise interested departments, to plan television lessons, coordinate CCTV schedules and deal with MPATI problems."

"During this five-year period the Center completed one major research project and began another. The Greater Columbus Area ETV Project, a three-year endeavor jointly financed by the Ford Foundation, the University, the State Department of Public Instruction and the Columbus Public Schools, came to an end, effectively making a transition in which ETV at first considered experimental locally, had become a standard teaching tool. The new project, The Role and Function of the New Educational Media in the Permanent Program of the National Cultural Center, was financed with NDEA funds under a subcontract with the National Cultural Center. Its purpose: to determine the type and kind of electronic facilities and their functions in this new Washington, D.C. "development."

"Center personnel were represented in various other state, national and international projects including: MPATI; the three-year ETV dissemination program of the North Central Association of Colleges and Secondary Schools; the first international conference on Instructional Broadcasting, a 64-nation school broadcast conference in Rome; the Advisory Committee on the New Media under NDEA Title VII, U.S. Office of Education; the boards of the National Educational Television and Radio Center, the National Association of Educational Broadcasters, the Great Plains Instructional Television Library, the Ohio Council on Educational Television, the Ohio Interim ETV Study Commission and the Ohio ETV Network Commission."

1959 - A series of six half-hour programs entitled, "Essentials of Freedom" produced for National Educational Television received a George Washington honor medal award from the Freedom Foundation at Valley Forge in February. The medal was awarded for the program on "Freedom of Communication", and was cited as "An outstanding achievement in helping to bring about a better understanding of the American way of life." The program participants included political scientist, Russel Kirk, of Post College, New York, and Mary Bingham, editor of the Louisville Courier Journal. Dave Ayres, manager of programs and productions for WOSU-TV, produced the series which was filmed at Kenyon College by the Ohio State University Department of Photography.

Director Richard Hull was made Vice Chairman of the Governor's Interim Educational Television Study Commission in 1959.

That same year, WOSU-TV was designated as one of the three Ohio educational television stations to receive the first video tape recorders granted to such stations by the National Educational Television Center.

The WOSU staff cooperated with the College of Dentistry in the design, purchase and installation of a CCTV system for the College of Dentistry, 1959.

A committee appointed by President Fawcett began the planning for the Center for Tomorrow. The committee consisted of Richard Hull, Edgar Dale, Nelson Riddle and Robert Nordstrom.

- 1960 - In 1960 Ohio State University became one of several resource centers
1961 for the Midwest Program on Airborne Television Instruction. William Ewing, Associate Director, served as MPATI coordinator for 22 counties in the central and west central Ohio area.

Also in 1960 President Fawcett indicated a "desire to strengthen all facets of telecommunications on this campus and to provide for an intelligent and orderly system of coordination of the vast array of developments that are taking place." He also indicated that he wished to "put the elements of this operation together in the form of a telecommunications center working cooperatively with the various agencies that are involved in some aspect of this work."

Since 1961, the Center has become involved in consultation, design and installation of television systems in the University, including installations in the Dental Clinic, the University Hospital, the Disaster Research Center, the Department of Chemistry, and others.

The Center staff has been called upon increasingly for advice and assistance by off-campus groups such as the Ohio ETV Network Commission, the United States Office of Education and the NDEA Title Seven Advisory Committee, the National Association of Educational Broadcasters, the North Central Association of Colleges and Secondary Schools, the National Cultural Center (now Kennedy Cultural Center), the Southern Region Educational Board and many others. The Center's media grouping concept under the label "Telecommunications Center" was used as an organizational model in a number of other institutions.

- 1962 - One of the most important developments in school television was the organization of Center Ohio Educational Television Foundation, Inc., in April, 1962, to work closely with WOSU-TV. Dr. William Ewing served as executive secretary for this organization for several years.
- 1968 - The following section is taken from the Annual Report by Director
1969 Richard B. Hull, for the year 1968-1969, and covers more recent developments of the Telecommunications Center:

COMMUNITY ACTIVITIES

The Telecommunications Center, through its three broadcast outlets, provides special programming services to a variety of audiences within the coverage areas served. WOSU, reaching out to two-thirds of Ohio, may be considered a "state" or "regional" station with rural and small community responsibilities. WOSU-FM and WOSU-TV, each serving an area 35-40 miles in radius with present power and antenna capability, are basically "metropolitan area" stations although school systems using special receptor gear receive the TV signal at greater distances.

Each station, in effect, has different characteristics and a different audience, and efforts have been made this year, especially in WOSU and WOSU-FM, to more sharply delineate these audiences. WOSU-FM, for example, will devote most of its time to the classic music listener and the art patron. WOSU will emphasize news, public affairs, specialized information, and a less esoteric type of music offering.

Television Broadcasting

WOSU-TV, as the minority audience television station in Columbus, caters to the mature adult and the out-of-school child during afternoons and evenings. Daytime periods are devoted to contract production and program display for instructional use in Central Ohio parochial and public school classrooms, and to further gearing up as the video tape recording and switching center for the network under development by the Ohio Educational Television Network Commission.

WOSU-TV was instrumental this year in amending the charter of the Central Ohio ETV Foundation after approval of the instructional television State Department of Education subsidy in S.350. The revised charter put the Central Ohio ITV services on a "pay as you go" basis and for the first time provided nearly adequate funding for WOSU-TV school contract services. The development also made WOSU-TV a "regional network headquarters" for in-school services to ETV stations in Athens and Newark.

WOSU-TV is affiliated with several national and regional program sources: National Educational Television (NET), Educational Television Stations (NAEB-ETS), and Central Educational Television (CEN). These embryo networks, providing programs on video tape and occasionally by interconnection, provided special programming of all kinds ranging from Shakesperian drama to the experimental Public Broadcast Laboratory. The Chicago based CEN in part is an effort to counter what some regard as an East Coast ETV program control monopoly in Boston, New York and Washington, D.C.

WOSU-TV locally produced programs including a documentary for Ohio Bell Telephone Company, a Margaret Mead lecture from Battelle Memorial Institute, "OSU Law Forum," "Portrait In," "Who is an Orchestra," funded by the ETS through the National Endowment for the Arts, "Mental Health in the Classroom"

commissioned by the Franklin County Schools, "An Invitation to Modern Dance" produced in cooperation with the Department of Physical Education, a special interview with Gunnar Myrdal by Journalism's Loyal Gould, "Urban Beat" an experimental series directed at the inner city, the Ilse Edse German series. The latter, along with various programs from the School of Music, are nationally syndicated.

F & R Lazarus, the Chamber of Commerce, the Citizen Journal and the area ski resorts assisted in making special programming available by underwriting the cost of program acquisition. On the day of the Martin Luther King funeral, WOSU and WOSU-TV secured permission to carry the CBS network feed all day supplementing this with special materials from NET and other sources.

Several of the programs listed above and their producers were nominated for "Emmy Awards" by the Columbus Chapter of the National Academy of Television Arts and Science, with "Portrait In--The Music of Al Waslon" produced by Gene Weiss named as a winner. "An Invitation to Modern Dance" received the Broadcast Media Award at the San Francisco Broadcast Industry Conference. "OSU Law Forum" received the Ohio Bar Association Award, and Clay Lowe, its producer, received the annual scholarship award from the Columbus NATAS chapter.

Mervin Durea and Greg Bowler who supervise this program-production activity hope, through more community support, to fund additional local programming. General manager Frank Sabah and Durea have begun detailing plans for a long range community support program for WOSU-TV.

Radio Broadcasting and Recording

With the advent of WOSU and WOSU-FM split programming, the staff began efforts to extend and improve programming and program quality in both services. While WOSU is now construed to serve a larger and more general audience (with emphasis on news, public affairs, community and regional issues, specialized services in agriculture and home economics) than WOSU-FM (extended periods of classical music and cultural affairs programming) it has improved its musical offerings as well.

Major additions to the music schedules of both stations include the BBC Music Showcase, the Philadelphia Symphony Orchestra, the Chicago Symphony Orchestra, the Boston Pops Orchestra, the Metropolitan Opera, and the Great Symphony Series (American, National, Pittsburgh). Battelle Memorial Institute, O.M. Scott & Sons, Discount Records and the Texaco Company have underwritten most of this scheduled six-day sequence. Programs are broadcast on WOSU during the day and rebroadcast on WOSU-FM at night, thus reaching the daytime women's audience and a nighttime family audience.

High cost and low quality of National Educational Radio Network (NERN) syndicated programs made necessary a drastic reduction in the amount of materials WOSU would use from this source. In the resultant search for new materials, many sources of better and less expensive programming were found, including more prepackaged music programs. Use of the prepackaged

programs together with the rebroadcast of selected elements from the day time schedule permitted broadcast directly from the transmitter during the evening, thus eliminating the need for an announcer during the evening.

A total reclassification and re-indexing of folk, jazz and spoken word recordings got under way. Work on transferring all music titles to an IBM record continues. Objective: to use data processing in program organization and in basic printouts for program listing, bulletins and logs.

Syndication of WOSU programming continues to be an important activity, with distribution to both educational and commercial stations. "In the Bookstall" is sent to ten stations, the "OSU Forum" to 26 stations and Voice of America, and the Ohio School of the Air history sequence (produced in cooperation with the Ohio Historical Society) to 20 stations. WOSU also coordinates a football network of 21 stations for the Athletic Department.

The Recording Studio, responsible for duplicating and distributing the programs noted above, also recorded the Ewing series, "Among the Scots" and "Burns' Portrait" for the National Educational Radio Network, as well as sequences for the nationally syndicated "Talking Books." In addition, recording services were performed for the Agricultural Extension Service, the School of Music, and the Listening Center along with many other campus departments as has already been noted in the Campus Activities section.

Among the documentaries produced were "Anatomy of a Pressure Group," tracing the development of the Welfare Rights Organization in Ohio over a nine month period. Many artists were interviewed on the stations. Among them: Igor Stravinsky, Jerome Hines, Maria Von Trapp and Van Cliburn. Lazarus has agreed to allow guest authors time to visit the station for recorded interviews. Spurred by a request from Battelle, a series of Toastmaster Club programs were inaugurated to improve speech skills. The new series will also include other participating groups such as Jeffrey Manufacturing Company employees, etc.

There were increased efforts to add new participants to the public service programs. Additions such as the Suicide Prevention Service and the Ohio Committee on Crime and Delinquency made the programs more rounded. Further, attempts were made to translate extremely technical materials into layman's terms. Accordingly, interviews were held with researchers in the fields of cystic fibrosis, multiple sclerosis and others that would not normally have been covered. Rebroadcast of ten previously produced ninety-minute seminars on Psychiatry and Religion also added to the special programming.

A new policy was established whereby, when feasible, WOSU worked with local organizations in coordinating radio and television public relations campaigns. For example, all radio and TV publicity for National Business Women's Week and for the Franklin County Chapter of the American Red Cross was handled through WOSU.

The news and public affairs department continued efforts to raise newscast quality. Number of taped on-the-spot interviews and descriptions of meetings, people and events was increased. Quality of voicing by air personnel improved, and arrangements with the School of Journalism for the airing of campus news shows by students continued. Quality of student performance has been gratifying. During this period, the department also began extensive research on the possibility of a statewide interconnected educational news network. A meeting of 15 of the 24 Ohio educational radio stations was held in March, 1968, and a committee was formed to make plans for forming such a network.

WOSU was chosen as the Central Ohio outlet for the program "Night Call" which originated in New York City. Prime purpose is to provide an outlet for racial tensions by airing each week night a one-hour program of discussion by nationally recognized authorities on inner city problems. Listeners participate by calling the New York station "collect" to present their questions. Originally planned for three months only, the nationwide response has been so great that it will be continued as long as the National Council of Churches and the National Catholic Office of Radio-TV can provide financing.

This noteworthy effort to generally upgrade all areas of programming has been a team effort by the staff of the radio station led by Steis, General Manager; Warnock, Program Director; Davis in News; Rousculp in Music and Haynes in Continuity.

Gifts and Grants

In addition to WOSU-TV awards from the Ohio Bar Association, the Broadcast Industry Association, the National Academy of Television Arts & Science, there were citations from the Dispatch Charities, the Muscular Dystrophy Association, and similar public service groups. Josephine Failer, after conferring with staffer Katherine Kienzle, gave \$1,000 of the proceeds from her antique auction for TV development. WOSU-TV also received a \$4,000 production grant from the Educational Television Stations Division of the National Association of Educational Broadcasters, a \$9,000 production grant from Franklin County Schools, and a \$45,000 production grant from the Central Ohio Educational Television Foundation, Inc.

WOSU and WOSU-FM received citations from the March of Dimes, the Heart Association, the National Wildlife Federation, the Dispatch Charities, the College of Medicine, and the Franklin County Society for Crippled Children. In addition to the Texaco Company funding for the Metropolitan Opera, the stations received grants of \$2720 from Battelle Memorial Institute, \$885 from Discount Records, and \$2,500 from O. M. Scott & Sons for musical programming.

Visitors

The list of special visitors to the Telecommunications Center included John McElroy, Assistant to the Governor, and 34 state officials to screen

a documentary program on inner city problems; Wayne Carle, Assistant Superintendent of Public Instruction who brought 25 curriculum supervisors for an AVI-ITV orientation; faculty representatives seeking information on ITV and radio techniques from Pennsylvania State University, Indiana University, Purdue University, Ohio University, Denison University, Heidelberg University, Central State University, University of Toledo, Mercy College, Cleveland State University, Lorain Community College, University of Missouri, California State College (Los Angeles), California State College (San Diego), the University of Wichita, Wayne State University; industry representatives (other than sales personnel) from Sylvania Electronic Products, General Electric, Radio Corporation of America, Visual Electronics, General Precision Laboratory, Ampex Corporation, RTV International, World Book Encyclopedia, Ohio Bell Telephone; foreign visitors include both educational and commercial representatives of government and business from Finland, Great Britain and Japan.

SPECIAL CONTINUING PROJECTS

Educational Broadcasting Review

The Educational Broadcasting Review, formerly published as the NAEB Journal at the University of Illinois, is the official organ of the National Association of Educational Broadcasters. In 1966 the NAEB determined that the Journal did not now meet new association requirements for a publication which would serve scholars and professional practitioners in educational broadcasting.

Following a competition in which universities were invited to submit proposals, the Ohio State University was selected as the institution under whose auspices the new Review would be developed. Under a three-year agreement through the Telecommunications Center, OSU agreed to commit up to \$5,000 per year to improve the publication, to develop a new format, to select the editorial staff and to provide housing and secretarial assistance. NAEB would provide \$10,000 per year for editorial personnel and underwrite the basic printing costs for a circulation of 3,500 copies.

Transfer of the Journal took place December, 1966, with James Lynch, Department of Speech, serving as interim editor until an ad hoc editorial board representing Education, Journalism, Speech and Telecommunications could select a permanent editor and establish the format for the new Review. Allen E. Koenig, who began to work July, 1967, was named as the permanent editor on a two-thirds appointment to the Telecommunications Center and a one-third academic appointment to the Department of Speech. Campbell Titchener became assistant editor.

NAEB President William Harley then named a permanent EBR editorial board as follows:

Richard B. Hull, OSU Telecommunications Center, Chairman
C. R. Carpenter, Research Professor, Pennsylvania State University

Marcus Cohn, Communications Attorney, Washington, D.C.
 Donley Fedderson, Director Radio & TV, Indiana University
 James Loper, V.P. and General Manager, KETC-TV, Los Angeles
 Oscar Reed, Jr., Consulting Engineer, Jansky & Bailey, Washington, D.C.
 Warren Seibert, Research Professor, Purdue University
 Jack Summerfield, Radio Consultant, New York, N.Y.
 James Fellows, Director Research and Development, NAEB, Washington, D.C.

The editorial board met in November, 1967 at the annual NAEB meeting in Denver to analyze the first issue of the new Review, (September, 1967), and to establish future editorial directions. The board met again in May at OSU and announced itself well pleased with progress of the publication and the OSU stewardship, a sentiment previously voiced by President Harley at the NAEB business session.

Irving Harris, public member of the NAEB governing board, and Marcus Cohn promised to secure underwriting for a special issue of the Review which would serve as a handbook for all broadcast media, commercial and educational, who must deal with revolutionary changes in contemporary society. Estimated special issue cost: \$15,000.

Koenig and Titchener deserve commendation for the skill and enterprise they have brought to bear on this new project.

Institute for Education by Radio-TV (Ohio State Awards)

By 1960 the annual IERT meeting appeared to have reached and passed the peak of its 30-year long national and international contribution to educational broadcasting. Attendance, which had begun to fall off, continued to decline each successive year thereafter. The National Association of Educational Broadcasters, for instance, once an IERT section meeting, now attracted registrants in the thousands to its own professional convention. The issues, the problems and the attendees had become too numerous and diverse to be dealt with adequately in the single "omnibus" gathering which had come to characterize the IERT.

As a result, in 1967 the IERT advisory committee was dissolved after deciding the IERT annual meeting as such should be discontinued and recommended first, that future emphasis should be placed on a continuation and expansion of the Ohio State Awards, and second, on fostering from time to time small, self-financed group meetings on educational communications.

In 1967-1968 the Telecommunications Center director who in recent years had served as IERT director, and Dean Cannon (now Teaching Aids Laboratory Manager) as associate director, revised the system of handling the Ohio State Awards and involved the WOSU-TV program director, Mervin Durea, and WOSU manager, William Steis, both skilled in planning and producing public meetings. Thomas Warnock, then an IERT graduate assistant, now WOSU-AM-FM program director, coordinated the receipt and reshipment of radio and television program entries.

A new calendar year (September 1 to August 31) was established to coincide with the national radio and television "season" which begins in the fall and runs through the spring. A permanent awards granting date was established for the month of February beginning in 1968. Representatives from the various awards judging centers around the country were called in to develop new standards and classifications for entries.

OSU awards are unique among all national contests. The programs submitted are selected by the entrants, not nominated, and every program entry is screened by a panel of judges whose identity is never made public. Fees paid by entrants make the entire endeavor self-supporting. Winners value the awards sufficiently to purchase full page displays in trade publications to announce the recognition.

In 1968 commercial and educational radio and television stations and networks in the United States and Canada submitted over 500 programs. A total of 39 awards were given in a public ceremony on February 15, 1968, in the Neil House at Columbus, Ohio.

1968 - Ground breaking ceremonies were held on Thursday, March 14, 1968 for Ohio State University's \$5,700,000 Center for Tomorrow, a major conference and telecommunications facility. The Center is scheduled for completion during the University's centennial year, 1969-1970. The facility includes broadcasting studios for WOSU, WOSU-FM, and WOSU-TV, offices for the University's alumni association, development fund and division of alumni records, 14 conference rooms, a 500-seat auditorium equipped for television program origination and simultaneous language translation, and dining facilities and offices for the University's continuing education program.

The original Center for Tomorrow planning report stated in part that (1) National Security ultimately rests more and more upon scientific, economic, political, social and psychological decisions than upon military might; (2) since these decisions must be made by the whole society, formal education can no longer instruct only those working toward a degree but must assume a variety of educational responsibilities for the entire community; (3) fulfillment of these objectives is possible only with an effective electronics communications technology specifically designed for these purposes.

In 1968, a new more comprehensive administrative grouping of media personnel and facilities was approved by the Board of Trustees. This new complex of learning resources technology now embraces the Library, the Listening Center, (audio dial access), Photography, the Telecommunications Center, Teaching Aids Laboratory and was to determine appropriate instructional programming relationships with the computer center as well.

WOSU-TV has continued to provide consultative assistance, system design, maintenance or operational support (and sometimes all four) to various University agencies including the College of Veterinary Medicine, University College, the Graduate School, the School of

Journalism, the Center for Vocational and Technical Education, the School of Fine Arts, the Electrical Engineering Laser Laboratory, High-Energy Physics, the School of Nursing, the College of Medicine, Medical Dietetics, Bio-Medicine and Psychiatry. Activity has ranged from a complete circuit design for Veterinary Medicine and University College branch campuses to evaluation of bids for bio-medicine, and maintenance and operational assistance in the Behavioral Sciences Laboratory, to facility maintenance for the micro-wave interconnection to Wright Patterson Air Force Base.

NOTE: A more detailed summary of developments in the use of television for instruction is found in the attached document entitled, "Ten Years of Instructional Television at Ohio State University."

TEN YEARS OF INSTRUCTIONAL TELEVISION

AT

THE OHIO STATE UNIVERSITY

September, 1968

TEN YEARS OF
INSTRUCTIONAL TELEVISION
AT
THE OHIO STATE UNIVERSITY

1957-58 to 1967-68

"With full knowledge of the difficulties involved, this university has been happy to seize this new opportunity to accept this challenge. It is our firm conviction that, with proper development, this new medium of education by electronics has possibilities almost beyond imagination."

...From talk by former Vice President Frederick Heimberger, The Ohio State University, in the initial broadcast of WOSU-TV, Channel 34, February 20, 1956.

TELECOMMUNICATIONS CENTER
THE OFFICE OF INSTRUCTIONAL TELEVISION
THE OHIO STATE UNIVERSITY
19 Derby Hall, 154 North Oval Drive
Columbus, Ohio 43210

September, 1968

SUMMARY OF DEVELOPMENT AND GROWTH 1957-58 TO 1967-68

This report is intended to provide general information on the growth and development of instructional television on The Ohio State University campus during the first ten year period, starting in the academic year 1957-58. It is primarily concerned with the closed circuit television distribution system, operating from the Derby Hall studios and WOSU-TV as a function of the Telecommunications Center. The Center staff has also been involved in the design and installation of several other closed circuit systems on campus and to some extent in the planning of new buildings which house closed circuit TV and other media.

Dramatic increase of enrollment in courses taught by television, shown in the table on page 17, is an important indicator of growing interest and use but other factors may be even more significant.

Faculty Involvement and Attitudes

During this period thirty-three members of the faculty have taught at least one course by television. Beginning with a cautious, somewhat skeptical approach on the part of a very few faculty members willing to experiment with the medium, there developed a wider acceptance of television as a regular, integrated teaching-learning resource, a better understanding of the advantages and limitations of the medium.

Starting with the use of open circuit television for remedial work in mathematics for incoming freshmen in the fall of 1958, interest and demand increased until it became necessary to install a multi-channel closed circuit system in the fall of 1962. Eighteen additional courses have been taught in part by television in the ensuing period with an approximate enrollment of 27,027 in the 1967-68 academic year. With few exceptions, after initial use in these courses, television has been continued with annual increments in use from year to year. An important by-product for some departments has been the stimulation for re-examination of course content and objectives, with television serving as a catalyst.

Another characteristic of the ten year period of development has been the wide variation in the patterns and purposes for use of television in different subject matter areas. In some instances television is used in large enrollment courses to help meet a shortage of well qualified teachers. Television has helped to extend the services of the best qualified staff, enabling the department to maintain a higher quality of instruction. The presentation of the basic lectures or lecture demonstrations by higher ranking faculty members, with classroom follow-up by instructors or departmental assistants, is the usual pattern.

In other subject matter areas television has been used because of its unique advantages for integration of visual materials and other special resources and demonstrations into the lecture presentation. Such an objective has been justification for the use of TV for small enrollment courses.

Patterns of use and re-use have also varied greatly in an effort to adapt to the interests and needs of different departments. Some departments have preferred to follow a carefully planned, full scale production pattern, with a view to use of the recorded material over a period of several years with updating of single lessons or lesson parts within the teleseries as student response is assessed and the teaching is found wanting. Others have preferred to present lecture live or recorded with the intention of using for one term only. By re-recording the lectures each quarter, some TV teachers have felt that material could be more easily kept up to date and that adjustments could be made for daily feedback by classroom instructors and students. Presenting the lecture live, and simultaneously recording it for playback in other sections of the course during the day is the usual procedure for these courses.

Interest is also increasing in advanced production and recording of shorter units of instruction or demonstration which have more permanent use and which can be incorporated into the regular TV lectures. The development of recorded materials for use in study carrels and the Listening Center dialing system is also beginning and is likely to increase. A more detailed statement of use by several departments is to be found later in this report.

Use of CCTV Facility for Other Purposes

The closed circuit TV studio, located on the third floor of Derby Hall, has been used also for laboratory work of TV courses in the Department of Speech and the School of Journalism. Each year approximately 500 students in these courses receive practical experience in all aspects of studio production. Other departments make occasional use of the studios and the cable system for special lectures or demonstrations for showing of film or video tape.

Student Reaction

Following the initial reactions to television as an innovation, student attitudes appear to be no different than for regular instruction. Students complain about dull or disorganized instruction whether it be by television or otherwise. An occasional student will rationalize his own shortcomings and finds television to be a convenient scapegoat. Surveys, however, have clearly revealed that quality teaching and effective use of the medium will generally produce favorable attitudes as well as positive

learning results. Recent questionnaires answered by students in a biology survey course taught by television showed a majority of students giving their approval of the TV method with approximately 20 per cent preferring the TV lecture. Significant also was the fact that approximately 90 per cent of the students felt that the lectures were improved considerably through effective integration of visuals into the lecture by television. It can probably be assumed in this and similar surveys that many students who disapprove of television think of the alternative as being a small class with a well qualified and experienced teacher, which, of course, may not be possible.

It should also be pointed out that although approximately three-fourths of the students enrolled at the university in any given year receive some instruction by television, the number of courses taught by television represents considerably less than one per cent of the total university curriculum. This means that at present for any individual student only a small proportion of his total courses required for graduation are taught by television. This fact and the standard procedure of follow-up of TV lectures by instructors in the classroom or laboratory should be sufficient to allay any fears about over-mechanization of instruction on campus.

Technical Improvements: A Factor in Acceptance

An important factor in acceptance of television instruction by both faculty and students has been the continued improvement in the quality and reliability of the technical service. Early difficulties involving loss of signal and poor picture quality have been largely overcome through installation and maintenance of high quality equipment and by the employment of well qualified technical personnel.

Research and Evaluation

Several research projects in ITV have been conducted during the ten year period under consideration. In addition to these major projects, informal evaluation has been carried out regularly by most departments using television at the university.

The most extensive research effort was the Greater Columbus Area ETV Project, conducted for a three-year period, 1959-62. The project was made possible through grants from the Fund for the Advancement of Education of the Ford Foundation, with matching grants from the Columbus Board of Education, the State Department of Public Instruction, and The Ohio State University. Richard B. Hull, Director of the OSU Telecommunications Center, was project director, and William H. Ewing, Associate Director of the Center, was coordinator. Other members of the staff participated in various ways. Major contributions to the research design and administration of the testing program were made by Hershel Nisonger, Emeritus, director, Dr. Egon Guba, director, and Dr. Catherine Williams, of the Bureau of Educational Research and Service. More than 5,000 students in sixteen county high school systems

in five counties, six junior high and five senior high schools in Columbus, two departments of the university, and three of the university off-campus centers participated in the experiment involving some five subjects during the 1958-59 school year. Thirteen county district high schools in Delaware, Franklin, Licking, Madison, and Union counties cooperated by using the Encyclopedia Britannica film series, "Chemistry for Today," as televised by WOSU-TV. Twenty-seven other schools cooperated as control groups. A total of 763 students were involved in this experiment.

The Bureau of Educational Research and Service also conducted tests with large classes in health science in six junior high schools, English for tenth graders in five schools, and remedial math and health education at the university level. Approximately 4,000 students took part in the experiment.

Other related research studies at OSU include:

- 1) "An Eye Movement Study of Children Viewing Television," conducted by Dr. Egon Guba and Dr. Willavene Wolfe of the Bureau of Educational Research and Service. Technical assistance was provided by Harold Gorsuch, Technical Supervisor of WOSU-TV as the project began.
- 2) "Instructional TV and the Classroom Teacher," conducted by Dr. Egon Guba, Director of the Bureau of Educational Research and Service, and Clinton Snyder, Director of this special research project for the Midwest Program on Airbourne Television Instruction.
- 3) "Evaluation of Classroom Utilization," conducted by Margaret Tyler, Telecommunications Center, and assisted by Dianna Zimmer, graduate student.
- 4) "Teaching Problem Solving to College Freshmen in Health Education with Television," a Ph.D. study by Dr. Robert Kaplan, Department of Physical Education, The Ohio State University.
- 5) "The Effect of an Instructor's Presence or Absence in Psychology Instruction," a study by Professor Delos Wickens, Department of Psychology, The Ohio State University.
- 6) "The Relative Effectiveness of Face-to-Face Lecture Versus Instructional Television in a College Clothing Course," a Ph.D. dissertation by Dr. Esther Meacham, School of Home Economics, The Ohio State University.
- 7) "Innovation Research and Theory," a Ph.D. dissertation by Harbans Singh Bhola, of India, Ph.D. candidate in the College of Education. Mr. Bhola was associated with the staff of Instructional TV during two quarters of his study.

Other related but minor research and survey projects, M.A. theses, and informal evaluation studies have been conducted during the ten year period. Increasing research activity is anticipated for the future.

Center staff members have also been active in state, regional and national developments in this field through planning and participation in conferences, workshops, surveys in research. In 1960-61 Dr. Ewing served as regional consultant in the national "Study of the Use of In-School Telecast Materials Leading to Recommendations As to Their Distribution and Exchanges." This was a Title VII U. S. Office of Education project. An important outgrowth of this study was the establishment of national exchange libraries, Great Plains Instructional Television Library at Lincoln, Nebraska, and the Center for School and College Television at Bloomington, Indiana, which include the annual conference on ITV.

ITV Staff Cooperation with Academic Departments

A general objective of the ITV Office has been to assist in the instructional program of the university in whatever ways possible. In addition to the planning and production of TV courses, members of the ITV staff have been involved frequently in presenting lectures, demonstrations, participating in seminars, workshops, and in assisting with special problem credit courses and research. Each year arrangements are made for a limited number of graduate or undergraduate students to work closely with the ITV staff to gain practical experience or to study some phase of television and its relation to university and school instruction. On several occasions the staff has cooperated with the College of Education in providing field experiences for speech majors and others with interest in the production and use of TV for instruction. The producer-directors have regularly assisted student groups in class projects. Other graduate and undergraduate students receive practical experience through regular part time employment as production assistants at a regularly hourly wage with supervision by full time professional staff.

International Activities of the Center

The Telecommunications Center has cooperated fully with the United States State Department and other government agencies in arranging visits by foreign visitors for observation and study in the ITV operation. Such visits range from a few hours to several weeks and are usually intended to provide orientation and better understanding of the uses of television for direct instruction. During the period 1965-68, for example, such visits were arranged for representatives of the following countries: Argentina, Brazil, England, Scotland, Finland, Japan, Sweden. During the 1966-67 academic year 13 foreign visitors spent a total of 67-1/2 days in observation and study with the ITV staff.

Several members of the Center staff have also participated in the international development of educational TV through travel, study, participating in international conferences or on assignment by the State Department.

Richard B. Hull was a member of the U. S. National Commission for UNESCO (1952-57). He was also United States representative to the international television programming conferences (1952, 1956), and National Association of Educational Broadcasters' representative to the first and second International School Broadcasting Conferences in Rome (1961), and Tokyo (1966).

William H. Ewing, Associate Director of the Center, spent some time in the study of school broadcasts in England, France, and Italy in the summer of 1962, and was on a Fulbright assignment at Glasgow University, Glasgow, Scotland, during the academic year 1965-66.

William Steis, General Manager of WOSU Radio, was for several weeks involved in the study of Italian school broadcasting in the summer of 1966.

Margaret Tyler, Director of The Ohio School of the Air, served as consultant to the Egyptian government for several months in 1962-63 and again for a longer period in 1964-65.

Self-Contained CCTV Systems on Campus

Concurrent with the development of the campus wide CCTV service described above has been the trend toward establishment of self-contained units in various departments and for a wide range of purposes. Such systems vary from a single camera monitor unit to a complete distribution system within a single building, such as Dentistry. The obvious advantages of such units include direct control of operations by the using departments and freedom to schedule service as needed. The design for many of these installations has been prepared by the engineering staff of the Center and in some instances engineers have supervised installation and maintenance. All new requests for CCTV systems are reviewed by the Center staff.

Amplification, demonstration, observation, evaluation, and wide ranging research activity are some of the established uses for these systems. Other departments are now in the exploratory stage to determine what, if any, specific applications of CCTV can be made to their subject matter fields.

Service to Central Ohio Schools

Although this report is primarily concerned with development of television at the university level, a comparable growth of interest and participation can be noted at the school level. Service to schools in the Central Ohio area has been provided through the facilities of WOSU-TV, Channel 34, since the initial broadcast of a driver education training television course in 1957. Starting with an enrollment of 329 in this course, student participation has increased to more than 200,000 in the 1967-68 school year.

Listed below are the school offerings scheduled on WOSU-TV in the spring of 1968. The MPATI programs and others from outside are identified. All others are produced locally for COETV.

Exploring with Science (Grade 5) MPATI
 All About You (Primary) MPATI
 Singing, Listening, Doing (Grades 1-3) MPATI
 Investigating the World of Science (Junior High) MPATI
 Franklin to Frost (Senior High) MPATI
 Listen and Say (Grades 1-2) MPATI
 Nature of Matter (Junior High) MPATI
 Science Corner I (Grade 3) MPATI
 Science Corner II (Grade 4) MPATI
 Learning Our Language (Grades 3-4) MPATI
 The Adventure of Science (Grade 6) MPATI
 Scienceland (Grades 1-2) MPATI
 Places in the News (Senior High) MPATI

Art 1	Physical Education 1
Art 2	Physical Education 2
Art 3	Physical Education 3
Art 4	Physical Education 4
Art 5	Physical Education 5-6
Art 6	Science 1
Geography 4	Science 2
Geography 5	Science 3
Geography 7	Science 4
Music 4	Science 5
Music 5	Science 6
Music 6	Science 7
Reading 4-5-6	

One of the most important developments in school television during this period was the organization of the Central Ohio Educational Television Foundation, Inc. in April of 1962, to facilitate cooperation of the Central Ohio area schools in the development and financing of an instructional TV service. COETV was reorganized and its constitution revised in the spring of 1968. This action was taken not only for the purpose of updating and strengthening the organization but to conform to the new state requirements which would make it eligible for state appropriations. COETV received such an appropriation in the amount of approximately \$58,000 in the early part of 1968 with an increase available for 1968-69. Member schools were required to provide a matching fund of \$.50 per pupil.

One important outgrowth of the ITV activity in Central Ohio has been the beginning of a network with WOSU-TV serving as a center for on-the-air distribution of school programs to the educational

stations at Newark, Athens, and through the distribution of video tapes to the Bowling Green University station. The service is extended still further through several community antenna and cable systems including Chillicothe, Coschocton, and other locations.

The state appropriation also provided funds for the acquisition of outside program resources. This enabled COETV to acquire a considerable number of taped school series from MPATI for rebroadcasting on Ohio ETV stations starting in the spring of 1968.

Prospects for continued growth of COETV are excellent.

Workshops, Conferences and Institutes

The Telecommunications Center has been active in its first decade of ITV in helping to meet the problem of an administrator-teacher orientation and in-service education in this field. Some of the cooperative workshops and conferences were planned and conducted by the Center staff while others were under the sponsorship of the College of Education and other agencies. The ITV staff also assisted in planning and participated in numerous local workshops during this period, including those held in the following locations: Chillicothe, Circleville, Marion, Bucyrus, Mansfield, Whitehall, Cambridge, Springfield, Newark, and St. Mary of the Springs College. The university sponsored workshops are listed below along with other key developments of the ten year period.

November, 1954	Awarding of contracts for construction of the Ohio State University TV station, studios, and tower, by the Board of Trustees.
February, 1956	Initial telecast of WOSU-TV, Channel 34, featuring the OSU Symphonic Choir and a talk by Vice Pres. Frederick Heimberger.
October, 1957	WOSU-TV embarked on its first instructional TV effort with a course in Driver Education for the Columbus Public Schools.
March, 1958	Remedial mathematics, the first university TV course, taught by Professor Leslie Miller.
October, 1959	Beginning of the Greater Columbus Area ETV Project, a three year cooperative research venture under a grant from the Fund for Advancement of Education of the Ford Foundation and matching grants from the Columbus Public Schools,

- the Ohio Department of Public Instruction, and two agencies of The Ohio State University, the Bureau of Educational Research and Service, and WOSU-TV.
- August, 1959 Columbus Area Educational TV Workshop for schools participating in the research project described above.
- July, 1960 Ohio State University becomes a resource center for the Midwest Program on Airbourne Television Instruction with Telecommunications Center becoming headquarters for service to 28 Central Ohio counties.
- August, 1960 Instructional Television Workshop for teachers in the Columbus Public Schools.
- November, 1960 North Central Association, Office of Education pilot conference on the uses of television in education.
- January, 1961 "Educational Television in the School Program," a conference for school administrators.
- June, 1961 Instructional TV Workshop for teachers, administrators, and PTA representatives participating in the instructional TV service of WOSU-TV and MPATV.
- Concurrent with the above workshop, a conference on modern educational media to acquaint leaders of business, civic affairs, education, government, industry, labor and religion with new developments in educational technology.
- September, 1961 TV teachers' workshop
- October, 1961 Start of CCTV Operation from Derby Studio
- April, 1962 Twelfth annual Principal-Freshman Conference, "Educational TV on the University Campus."

April, 1962	Central Ohio Educational Television Foundation, Inc. established to facilitate a cooperation of Central Ohio schools in the development of educational television.
June-July, 1962	Conference on modern educational media, "Cross Media Approach to Learning," for teachers, supervisors, and administrators. Students registered in the summer session for the three week's workshop received four hours credit.
July, 1962	Office of Instructional Radio-Television established with office in Room 19, Derby Hall.
February, 1963	School Supervisor's Conference on Educational Television held at Homedale School in Worthington, Ohio
June, 1963	Instructional Television Workshop held at Dublin High School and Worthington Junior High School for participants in the MPAT and OSU Instructional TV Service. The last two days were concurrent with sessions on ITV at the Institute for Education by Radio Television.
July, 1963	Foreign language workshop for teachers using or interested in using the TV series, "Parlons Francais," for elementary grades.
June, 1965	NDEA Institute for Media Specialists with approximately ten days devoted to instructional television.
October, 1967	Newark Public Schools ITV Workshop
March, 1968	Groundbreaking ceremonies for Ohio State University's Center for Tomorrow, a major Telecommunications' facility
April, 1968	Telecommunications Center becomes part of Learning Resources Center of the university.

In addition to the conferences listed above, the annual Institute for Education by Radio-Television sponsored by Ohio State University, devoted many of its sessions to the problems of production and utilization of instructional TV programs. Associated with the Institute was the exhibition of educational TV programs, including award competition in systematic instruction by television.

Description of Present (1968) Closed Circuit TV Facility

The principal production center for the instructional division is a 30 by 40 ft. converted classroom located on the third floor of Derby Hall, adjacent to the university administration building. The Derby studio is equipped with three General Electric B & W vidicon cameras: two, turret lens PE-23's on Houston-Fearless counter-balanced dollies, the other a fixed position viewfinderless TE-9 with zoom lens.

A standard set comprised of magnetic display boards, a rear projection screen, and a "Write-A-Mile," is used for most instruction. Acoustical treatment, spot lighting, and air conditioning contribute to a more functional TV teaching environment. Student employees, many of them broadcasting-communication majors, operate equipment in the studio.

The adjoining control room houses the associated electronics. A fourth camera (Sarkes Tarzian VCF-3B) is located in the control room as part of the film chain from which 35 mm transparencies and 16 mm motion pictures are projected into the TV system. Two professional electronics specialists--a Technical Director and Audio Engineer--operate this control equipment. A dual channel GE audio console provides eight microphone inputs as well as inputs for cartridge tape player, reel to reel recorder, turntable, and either optical or magnetic film sound.

For closed circuit distribution audio and video signals are transmitted by cable from Derby Hall to Video Tape Central located two-and-one-half miles away at the transmitter site of WOSU-TV. From Video Tape Central a modulated RF signal is returned to the main campus on seven channels of a coaxial cable system. Reception is accomplished on any standard VHF receiver connected to the cable.

A telelesson may be recorded at Video Tape Central at the same time it is being seen in classrooms "live." Likewise, it is possible to record program materials without sending it to the classroom and many hours of instructional programming have been recorded in advance in this manner.

A total of 33 classrooms especially adapted to closed circuit television viewing are located in Robinson Lab and Civil and Aeronautical Engineering Building as well as Mendenhall Lab, Campbell Hall, Horticulture and Forestry, and the Botany and Zoology Building. At any single given hour as many as 1,600 students may be watching TV. Plans have recently been formulated to extend the CCTV cable to selected dormitory areas.

STATEMENTS BY REPRESENTATIVES OF ACADEMIC DEPARTMENTS
CONCERNING USE OF CLOSED CIRCUIT TELEVISION FOR REGULAR INSTRUCTION

Biology

The beginning Biology Course has been televised since 1961-62. The beginning Zoology Course has been televised since 1963-64 and in the academic year 1968-69 some Anatomy and Physiology Courses will be televised.

From the outset the primary rationale for televised instruction has been the contention that the medium makes the very best lecturers available to all students. A second factor of importance in biology is the needed rapidity in reporting new information arising from the scientific process.

Television provides tremendous advantages to the biologist. A lecturer can call the attention of thousands of students to a sub-cellular structure such as a mitochondrion. Conceptual models can be presented through the use of physical analogs. Thus, complex processes in living systems can be presented in an understandable way.

Although television makes it possible to bring the lectures to small class groups, this has not been achieved. Large lecture halls seating approximately 200 have been used thus far. However, future plans indicate a change in this pattern.

The College of Biological Sciences has pioneered the use of supplementary instructional tapes available to individual students through dial access in individual carrels of the Listening Center. This is the very first of anticipated utilization of video tapes in individualized biology instruction. Future uses of television include both group and individual (student-controlled) situations.

Video tape preparation has developed from a simple interposition of camera between the professor and student to a complex production task. The use of film chains, models prepared by artists, special effects and other additions to taped lectures has resulted in the need for close working academic-technical teams.

by Robert W. Menefee,
Core Biology Director

Mathematics

The Mathematics Department has used closed circuit TV for instruction on a regular basis since October, 1961. It did so initially as an expedient measure when faced with the task of providing instruction to large numbers of students with inadequate staff and lecture hall facilities. In the early days of this usage, those presenting the TV lecture were inexperienced

in the use of TV, the production staff had little experience in the use of TV for instruction and the equipment was unreliable. Today we operate with experienced lecturers, with highly reliable equipment and with competent technical personnel.

While we still utilize TV because it is a way of providing instruction to large numbers of students, we no longer do so because it is the only way of providing such instruction. The department feels that it is a better device than the traditional alternative of the large lecture. Some of the advantages it offers are listed below.

1. Since we utilize small class rooms with a graduate student assistant present to provide help with assignments, we are very close to the usual small class techniques of instruction. We provide the student with daily contact with a teacher with whom he can interact. (About 40% of the class time is used for TV viewing.)
2. An important side payment of this technique is the training of the graduate assistant as a teacher. He observes the material being presented and comes to know the content and standards of the courses of the department. When he teaches the course independently for the department he is able to do so more capably than he could have done without this experience.
3. An obvious advantage of the use of TV for instruction is that the courses so offered are tightly controlled during a given quarter. Since we use common examinations, graded with common standards, grading is more meaningful.

The weakest element in the use of TV for instruction at this university is the viewing facility. Since the technique was imposed on the existing structure it was necessary to convert existing classrooms for use as classrooms for TV usage. No real attention was given to the problem of adequate acoustical treatment of the rooms. Light control was largely ignored. While some effort has been made in the more recent assignment of rooms to be used for TV viewing to select adequate rooms much could be done to improve these facilities.

The department intends to continue to use instructional TV. In the future we expect to see an extensive use of films and video tapes of material that is prepared explicitly for use in TV taught courses. This material will be designed to take advantage of visual techniques that can make certain concepts readily understandable. It is felt that many ideas can be so presented in a fashion that significantly improves on the traditional presentation by a classroom teacher.

by Arnold E. Ross, Chairman
Department of Mathematics

Home Economics

In two of the five divisions in the School of Home Economics television is used for classroom instruction. For the past sixteen quarters (since spring quarter 1962) students in Clothing: Design Analysis have received two thirty-minute lectures per week via television. Each video-taped lecture is followed by eighteen minutes of discussion or question-answer time with the classroom teacher.

One of the most advantageous aspects of the television lectures is the front row view of demonstrations which relate to laboratory procedure. Students from two or three laboratory sections meet together at the lecture hour forming a group of about fifty students. Prior to the use of television in teaching this course simultaneous, small-group lecture sections were scheduled. There was a great deal of inconsistency in quality of presentation as well as variation in subject matter covered. Tight hour-to-hour scheduling in the lecture rooms in Campbell Hall often made careful set-ups for demonstrations impossible.

In general, student acceptance of the recorded instruction has been favorable. Although they have little opportunity to compare a live lecture with a recorded one in the same kind of class, they do recognize features of the taped lessons that would not be possible in a direct presentation.

Any study relating to clothing changes with the times, and so due to the very nature of the subject matter recorded lessons become outdated. A relatively satisfactory plan has been worked out to revise and rerecord the lecture-demonstrations for this course every three years. After the initial videotape recording in 1962, a new unit was added in 1964. An overall revision was completed in 1966 and the second such revision is scheduled for 1969. A manual and study guide to use with the televised lectures was a worthwhile addition in 1966.

There have been five different classroom teachers assigned to this course since 1962. The follow-up session in the classroom after taped lesson plus the contact with the students in the laboratory have provided opportunities for each teacher to individualize her teaching. Each of the classroom teachers has commented on the saving of time and work in having recorded instructional material rather than preparing new materials for repeated demonstrations.

The lack of color in black and white television is a limitation in the total consideration of clothing. As soon as color television can be made available, the feasibility of its use will be carefully considered.

Consideration also is being given to augmenting the classroom presentations with additional video tapes for individual study.

One unit of the introductory course in Household Equipment has been recorded on videotape for repeated classroom use. The unit on electricity, which is a study of basic information, involves numerous pieces of equipment and apparatus which are not easily assembled, transported, handled, demonstrated

and eventually returned to storage. The presentation via television ensures a consistent quality and quantity in class-hour content for that unit of work and frees the teacher to prepare and present information of a less basic or elementary nature directly to the students.

Future plans for the use of ITV in Home Economics include the possibility of recording other units of work for the Household Equipment course. Also, under consideration is the feasibility of recording nursery school observations for use in Child Development courses.

by Esther Meacham, Audio-visual Coordinator
School of Home Economics

Health Education

The Ohio State University is one of the few large universities which still has a required personal health course for every undergraduate student. Since this course is a one credit hour course and one quarter in length, it requires a good measure of both administrative and technical desire and skill to make it function smoothly.

During the 1967-68 year there was an enrollment of approximately 6700 students in 166 discussion sections. The course is taught partly by television; each student views a thirty minute telelesson and also takes part in a fifty minute discussion section meeting each week. Each of the viewing sections totals around 300 students; the discussion sections average between 40-45 students. All sections are coeducational. The Men's and Women's Divisions of the Department of Physical Education cooperate in providing instructors, which include all ranks from Teaching Associates through Professors. Forty-one different individuals taught at least one section during 1967-68.

The eight television lessons currently in use are the fourth series of eight lessons developed since 1960 by the Department of Physical Education and WOSU-TV. This particular series was used for the first time during the Autumn Quarter of 1967; since then two of the lessons have been revised and retaped. The titles in the series are: "Effective Living: Your Choice;" "Meeting the Challenge of Stress;" "Controlling Communicable Disease;" "Noncommunicable Disease: Reducing the Risk;" "For Better or For Worse;" "Understanding Parenthood;" "The Paradox of Progress;" and "Consumerism: Wise and Otherwise."

A member of the health education staff coordinates the course; during the first week of the quarter the coordinator is assisted by two staff members and a secretary. An orientation session about the course and learning by TV is conducted for each group of 300 who comprise a viewing section. Since the individuals in the discussion groups are seated together to view each TV lesson, it is possible to account for each student in both the TV and discussion groups.

The administration of the course involves sheer numbers and places, but this is really only the beginning. The extent to which a course such as this is successful depends upon the quality of the televised lessons and the quality of the teaching-learning process that occurs in the discussion groups. The course coordinator provides leadership in these areas. She is assisted by

an Advisory Committee which consists of six members, including the Chairmen of the Women's and Men's Divisions of Physical Education and selected health education staff members. This group acted as a sounding board when the course was being developed in its present form nine years ago and a research project was built around it. There are constantly problems of budget, problems of staffing, and problems of in-service education - especially when 70% of the discussion instructors are physical educators who are not automatically "plugged into" leading classroom discussion groups based on a previously taped lesson.

There is constantly the matter of up-dating the televised lesson because this generation of college students comprises a critical television audience. We are gradually working into a cycle whereby we revise and retape two lessons each year - attempting to use the most current, sophisticated techniques of the medium that the Department can afford. We are gradually moving out of the practice of taking an effective classroom health educator and trying to turn him into an effective TV performer and moving into the practice of writing the TV scripts ourselves and hiring professional TV performers to put them into action. The last two efforts in this direction - in which our WOSU-TV producers have done all of the "staging" and technical details - have proved very effective insofar as audience appeal is concerned. This takes real coordination since we as health educators must convey our philosophy of health education to them as television producers. But we have been most pleased with the results and eagerly anticipate meeting the challenges of this course through highly effective television lessons.

by Mary K. Beyrer
Professor of Health Education

CENTER FOR TOMORROW

A significant step in the development of instructional television at the beginning of the second decade is the building of a major conference and Telecommunications facility. The groundbreaking ceremony was held on March 3, 1968, with the completion date set for late 1969. This \$5.7 million dollar "Center for Tomorrow" will house the broadcasting facilities, including two large television studios, three radio studios, offices, workshops, and storage space. The Telecommunications' wing will also serve the closed circuit instruction needs and will in addition provide facilities for general adult education programs. The auditorium will be designed and equipped to serve continuing education programs of an international nature and will provide space for simultaneous language translation as well as facilities to send, receive, and record radio and television programs.

This modern new structure and the experience gained in the first ten years of operation should enable the Telecommunications Center to extend and improve its services not only with respect to formal instruction on campus, but general educational services to the people of this community and the state.

ENROLLMENT DATA FOR TV COURSES 1957-58 - 1967-68

COURSE	1957-58	1958-59	1959-60	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68
Bio. 402 (102)*								4,605	5,278	5,166	4,630
H. Ed. 400 (101)			2,045	4,100	6,471	6,540	6,841	7,706	8,522	7,889	7,269
Home Ec. 506 (322)								57	181	185	174
Home Ec. 531 (374)					50	127	82	86	103	137	119
Math 400 (Remedial)	245	600	797	684							
Math 412 (101)									954	1,619	1,944
Math 416 (116)					2,427	3,078	2,194	2,576	2,500	2,256	1,695
Math 417 (117)					979	1,367	1,414	1,709	1,930	872	1,230
Math 417 Special										432	
Math 426									608		
Math 439 (150)					856	752	1,249	1,928	1,646	2,116	2,752
Math 440 (151)					592	575	827	1,307	2,105	2,532	2,824
Math 441 (152)					254	553	450	679	1,120	1,396	1,365
Phy. Ed. 576 (323)								456	433	661	516
Phy. Ed. 587					114	297	419				
Phy. Ed. 830											14
Physiology 651		12									
Psych. 401 (100)					187						

Continued....

COURSE	1957-58	1958-59	1959-60	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68
Zoology 400						4,066	4,740		660		
Zoology 401				500	3,700	1,669	2,612	2,113			
Zoology 404 (101)									2,279	2,749	2,495
TOTALS	245	612	2,842	5,284	15,630	19,024	20,828	23,222	28,319	28,010	27,027
GRAND TOTAL										171,043	

* Course numbers were changed effective Autumn Quarter, 1967.
 All new course numbers that are available are listed in
 parentheses next to the old numbers.